

## ABSTRACT OF THE DISCLOSURE

A linear motor apparatus which drives a mover of a linear motor in a stable manner, by using only information on change of relative position, without  
5 using an absolute value sensor. The apparatus has a coil array of plural phases of coils and a magnet relatively movable to the coil array, plural drivers, at least one of which being provided for each phase, to feed a current to all the same phase coils of the coil  
10 array, a sensor for measuring a change of relative position of the magnet moved by the current to the coil array, and a controller to determine the polarity of the current applied to the same phase coils based on the change of the relative position measured by the  
15 sensor, and apply a drive current to drive the magnet in a desired direction to the same phase coils.